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LIGHTING IN PORTRAITURE

A Practical Account, by a Professional Photographer, of the Principal Methods of Lighting in Portraiture: With Illustrations and Examples of the Styles Described. Notes and Comment. A Competition for Women Only.

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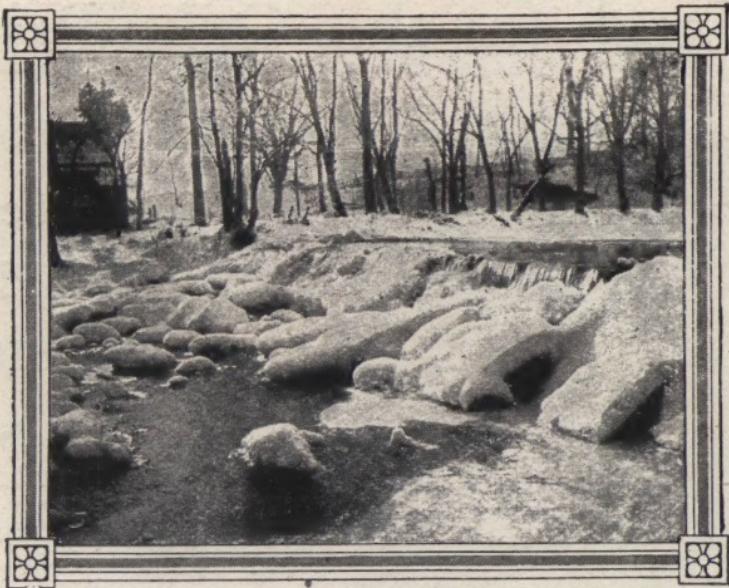
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An example of relief lighting, by C. C. Kough.
See reference to Fig. 14 on page 180.

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Number 112

Lighting in Portraiture

The essential element in all portraiture is likeness—the true or pleasing characterization of the subject. Lacking likeness, the portrait fails to fulfil its purpose, loses its chief interest, and is unworthy of the name. I put this at the forefront of our adventure in these pages, because it is all too often forgotten in the professional portraiture of today. The clever style or mannerisms of a noted photographer, pictorial qualities, and striking arrangements in pose and lighting are all very well in their way, but likeness is more important; gives satisfaction to the customer, and so is more profitable to the photographer. When we see a portrait of any well-known man, our first question is: Is it like him? Similarly, the final judgment of the portrait of a friend is either: It is a good likeness of him, or, it is not like him. In this characterization or portrayal of personality by photography, we employ two principal means—the composition or arrangement of the figure, commonly spoken of as "posing," and the disposition of light and shade so as to give harmonious expression to what face and pose tell us of the sitter, comprehensively covered by the term "lighting." Both these two means exercise a powerful influence on the result, but, since lighting is so intimately related to expression, it is at once the more subtle and the more important of the two. The pose may reveal likeness and accentuate character, or it may add to our pleasure in the portrait as a work of art. But, as most of us know by experience, the scheme of

lighting employed in a portrait may, with equal facility, distort, obliterate or destroy, or enhance and idealize the vital characteristics of the subject.

A Familiar Instance As proof of this we can recall a familiar instance. Among several portraits of a friend, all equally satisfactory in general treatment, there is usually one which we prefer before the others. If we look into the reasons for this preference, we will generally find that there is an indefinable something in the scheme of light and shade running through the portrait preferred which emphasizes the most desirable qualities of the personality portrayed. So much is this the case that, if the reader will take the trouble to make ten portrait studies of a friend, varying the illumination before each exposure, he will be convinced, once for all, that the securing of a pleasing likeness is most largely dependent upon the illumination, or lighting.

In this monograph we propose to **Two Questions** study certain conventionalized methods of portrait lighting which are generally followed in professional studios. This limitation of the field will, in all likelihood, prompt the reader, as it prompts the writer, to ask two pertinent questions, viz: Why should lighting in portraiture be reduced to the formalism of method and convention? and: What about unconventional methods? The brief consideration of these two questions may profitably form a practical introduction to the larger part of our subject.

Accidental Lightings It is obvious that the lighting of the faces and figures we see about us in everyday life is infinitely varied. But it is equally obvious that these haphazard or accidental lightings rarely give us the most pleasing view of the individual. We will quickly appreciate this if we note the continually changing expressions of those about us (as, for example, the person occupying the opposite seat in a street or railroad car)—the result of the momentarily varied illumination of the face. In the portrait, we must get our impression of the individual from the single expression held during the brief period of exposure. Hence the necessity of studying the subject under

different lightings, in order to determine that aspect and illumination which will give us the most pleasing characterization of the sitter. Now, in professional portraiture as it is followed in the average studio, there is little time or opportunity for this particular study of the individual sitter. Moreover, experience tells us that it is possible to lay down certain general principles covering the illumination of the subject, so that, under given conditions, a definite method or style of treatment may be followed, successfully, in dealing with faces of differing but allied types. These principles concern chiefly the direction and quantity of the light falling on the subject. It is from the practical application of these principles day by day in the studio, and the use of conveniences for regulating and controlling illumination, i. e., the form of the skylight, screens or reflectors, etc., that photographers have evolved methods of lighting their sitters which are generally referred to as conventional portrait lightings. In the practical work of the professional studio, these methods offer the safest and simplest way to successful portraiture, and may be studied with direct profit by all who seek success in this field. Their principle disadvantage lies in the facilities they offer for monotony—the unthinking repetition of the same lightings day after day, such as we see in the show frames of many professional studios. Properly understood, they afford the best possible foundation for the evolving of individual or unconventional lightings which we can now consider.

Individual Lightings The term "unconventional" is usually applied to those lightings which attract attention by their striking originality and radical departure from the standard types of professional portrait lighting. A broader viewpoint would make it cover all lightings in which individuality of treatment or effect predominates over the slavish following of any typical method or style. We have examples of these individual lightings in the work of such men as Steichen, Coburn, Furley Lewis, Hoppé and Dührkoop. Their portraiture is always worthy of study. As far as lighting is concerned, there is no attempt to follow any recognizable method, but one rarely sees in their work a

scheme of illumination which is inconsistent with the pleasing portrayal of the subject. These original or individual lightings, however, are not advised for the everyday work of the average professional studio. They are apt to result in portraits which the average sitter fails to appreciate, simply because they differ from the typical studio portraits with which he is familiar.

The Studio In taking up the conventionalized methods of lighting, we must first consider the studio, its arrangements and equipment for the work proposed. The actual form of the skylight, whether of the double or single slant light kind, is of little importance. The vitally important thing is to have plenty of uninterrupted sky light, and a system of blinds or shades giving one complete and perfect control over the illumination of the room. This, of course, covers daylight work. For artificial light portraiture the same general principles apply, viz: plenty of light and some means of regulating and controlling it; but here there will be needed special helps in the way of screens and reflectors, the detail of diffusion and shadow illumination being of prime importance in artificial-light portraiture. Here we are concerned with daylight lightings exclusively.

Blinds or Shades For controlling the illumination in a daylight studio, several different methods of fitting blinds or shades are in general use. First we have the draped shades of flexible material, hanging on wires strung across the sky- and sidelights. Then we have roller blinds of stiff fabrics, working like the shades of a house window, on a spring-actuated tension. These are sometimes arranged to run from top to bottom of the side and top lights; at other times they run from side to side of the lights. My experience with all forms has convinced me that the first mentioned is the simplest and most satisfactory in use, and gives me results limited only by my capacity in securing the effect desired.

The Writer's System As will be seen in Fig. 1, my blinds consist of two sets of flexible curtains: black next to the light and a white set underneath. These blinds are suspended on parallel

wires running the whole length of the studio, and are adjustable to any desired position, allowing every bit of light to be excluded or enter unobstructed at will.

They are operated by means of a light bamboo pole, so that I can stand by the camera and watch the effect of letting in here or stopping out there any volume of light desired. It is important in fitting any arrangement of blinds that each blind should overlap its fellow, so that no light enters between any two blinds. It is hardly necessary to say that any other system which is efficient in the detail of control will enable the reader to obtain any of the lightings described

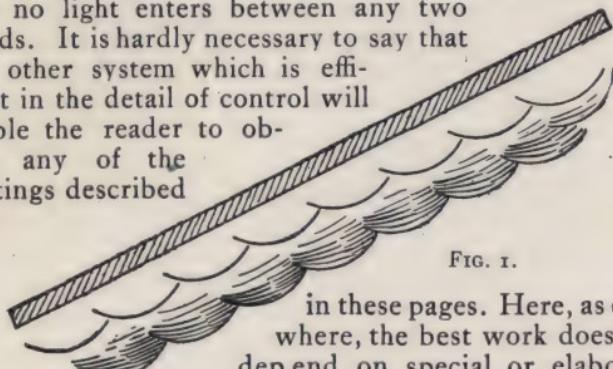


FIG. 1.

in these pages. Here, as elsewhere, the best work does not depend on special or elaborate fittings, but on the ability of the

worker and his knowledge of ways and means. There can be no question, however, but that a light of the double-slant variety, with abundant skylight area, and well equipped with blinds, as I have already outlined, makes the obtaining of a wide variety of lightings extremely simple in practice. Once equipped with such a light, the photographer should devote a few hours at least to purely experimental work, learning how to regulate and control the light at his command, so that, in actual practice, he can proceed to get the effects desired without unnecessary fussing and disturbance.

Before passing to the discussion of the **A Suggestion** different lightings, I cannot forbear the suggestion that, when not actually in use, the blinds should be kept closed and the studio darkened as far as is practicable. There is common sense behind this suggestion, despite the fact that one seldom sees it applied in the professional studio. In general practice, the sitter enters a studio flooded with strong light, and this in itself often has a very unpleasant

effect on the subject. But the evil influence of the all-light studio on the photographer is more important. It involves the finding of the most desirable lighting of the subject by the comparatively difficult process of elimination, whereas lighting in portraiture should be constructive. The human face is almost infinitely varied by subtle and delicate projections and recesses, curves and lines, and does not offer a square inch of absolutely flat area. In these minute and delicately modeled differences of form we find the character and expression of the individual, upon the preservation of which the success of the portrait depends. So the portraitist must train himself in the observation, not so much of the larger masses of light and shadow which fall on the sitter, but of the finer and more subtle gradations of tone and light and shade which come between the high lights and the deeper shadows. In this study of the face, the darkened studio is immensely helpful, in that it enables the photographer to approach the problem of illuminating his sitter with an open mind and unbiased opinion. Apart from this, the darkened studio presents a quieter and more restful appearance to the sitter; and the freedom from persistent, glaring light means the better preservation of furnishings and such colored fabrics as may be in use as draperies or accessories. Since I adopted this system, I have found it directly beneficial to my work, much less fatiguing to the eyes than under the old conditions, and distinctly pleasing in its effect on my sitters. In the descriptions of methods of lighting here given, it is understood that, at the beginning of each sitting, all the blinds are drawn closed.

All schemes of lighting depend upon the position of the sitter with relation to the position of the camera and of the open area of sky- or side-light employed. Thus it is possible, provided the studio be large enough, to so change the relative positions of camera and sitter that what was at first one particular scheme will be changed to another quite different.

The scheme of lighting which is found **Plain or
45° Lighting** most generally useful for the average subject is known as plain or 45° lighting, because the light is so controlled as to fall upon the



Fig. 2. Showing the typical arrangement of studio, blinds, sitter and camera for plain or 45° lighting. See page 160.



Fig. 3. Example of plain or 45° lighting.
H. Essenhight Corke. See page 164.

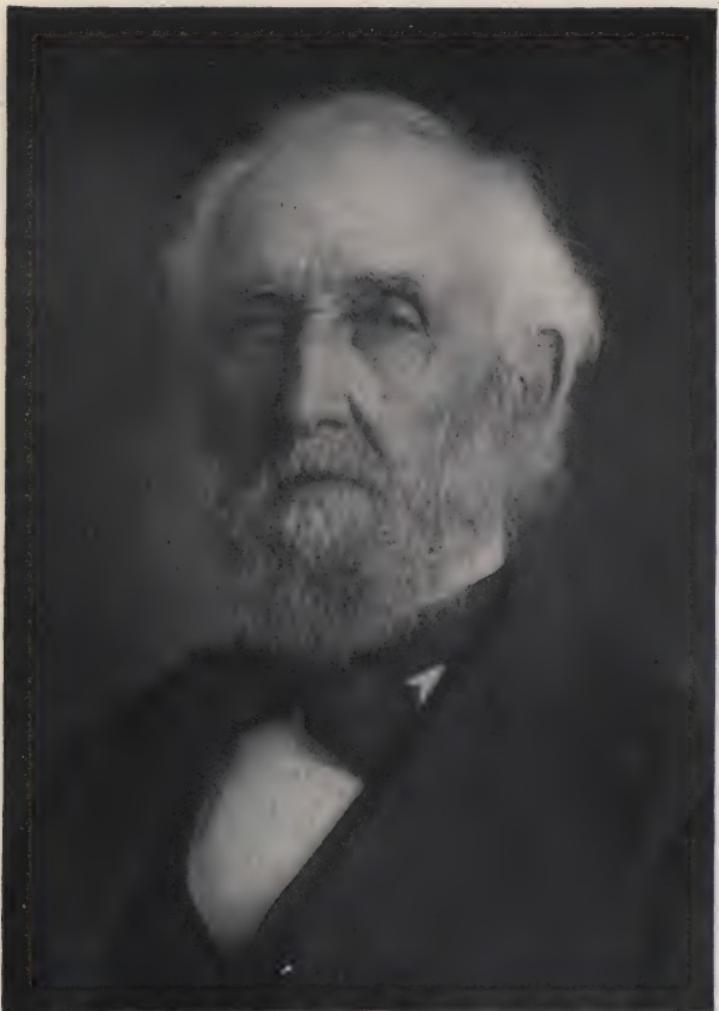


Fig. 4. Example of plain or 45° lighting.
W. M. Hollinger. See page 164.

sitter at an angle of about 45° . The relative positions of sitter, camera and light opening in obtaining this lighting are shown in Fig. 2, and examples of the lighting itself are given in Figs. 3 and 4, the first of these being lighted from the left hand (as in Fig. 2), and the latter from the right-hand side. The examples serve to show the adaptability of this lighting for widely different subjects. It readily lends itself to the obtaining of softness and breadth in the modeling of the features, and gives a sense of quiet dignity, which is a desirable quality in portraiture of this sort.

In making this lighting, the sitter should be placed near the center of the width of the studio and three-quarters of its length, starting from the wall behind the camera. Reference to Fig. 2 will make this clear.

The blinds

should be opened to give a clear light area of about six to eight feet square, according to the height of the skylight. The higher the skylight, the larger will be the light area needed to obtain the effect, with soft but well-defined modeling and shadows with life in them. The position of the light area in relation to the sitter should be such that the top corner near to the sitter is

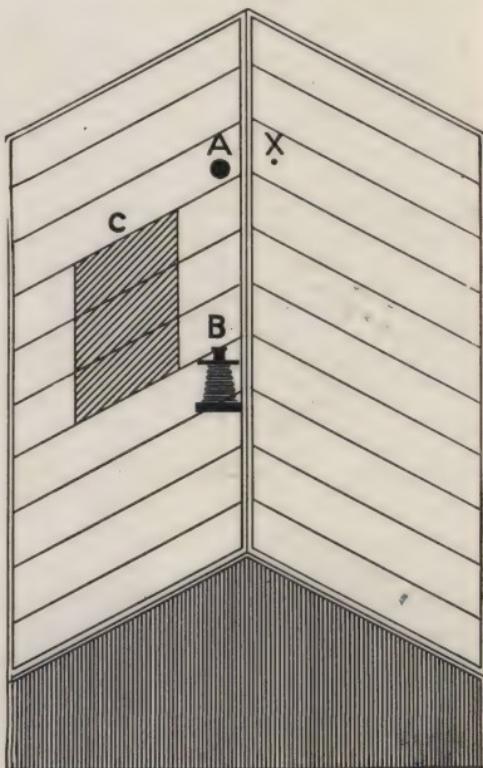


FIG. 5

practically vertical over the subject, but a little to the front and right (or left in the case of a right-hand light) side, as shown in Fig. 5. In this diagram, A represents the sitter, B the camera, and C the light area.

These instructions will suffice to give

Modification us the main direction of the lighting, but they are, of course, subject to slight

modification according to differences in individual studios, or the requirements of different subjects. For instance: in a studio with a low skylight, equipped with a single set of black or opaque blinds, this arrangement will probably give a hard lighting. To remedy this, the sitter may be placed nearer to the center of the width of the studio, marked X in Fig. 5, and so gain the advantage of the greater diffusion of the light at that point. This will insure softness in the modeling of the features, and a better rendering of the delicate half-tones which lie within the broad masses of light and shadow.

On the other hand, if only a single set of white blinds be used, the arrangement suggested may result in over-much softness or flatness of illumination, lacking in snap and relief. In such an event, place the sitter nearer to the sidelight and enlarge the skylight area until the lighting is seen to be more forceful. It is just these final, delicate adjustments of the light which are so difficult to formulate on paper, and which must be determined according to local conditions and requirements, the changes being based upon that systematic observation of light-and-shade effects which should be second nature with the portraitist. As a rough guide, it may be noted that, in a full-face portrait with 45° lighting, the shadow cast by the tip of the nose should fall so that it extends to about the top of the far corner of the mouth of the sitter.

Position of the Head So far I have made no reference to the position of the head in this method of lighting. It is obvious that the light effects will be varied by each movement of the head to or from the light. In the scheme suggested, the subject is supposed to be looking directly at the camera and away from the light.

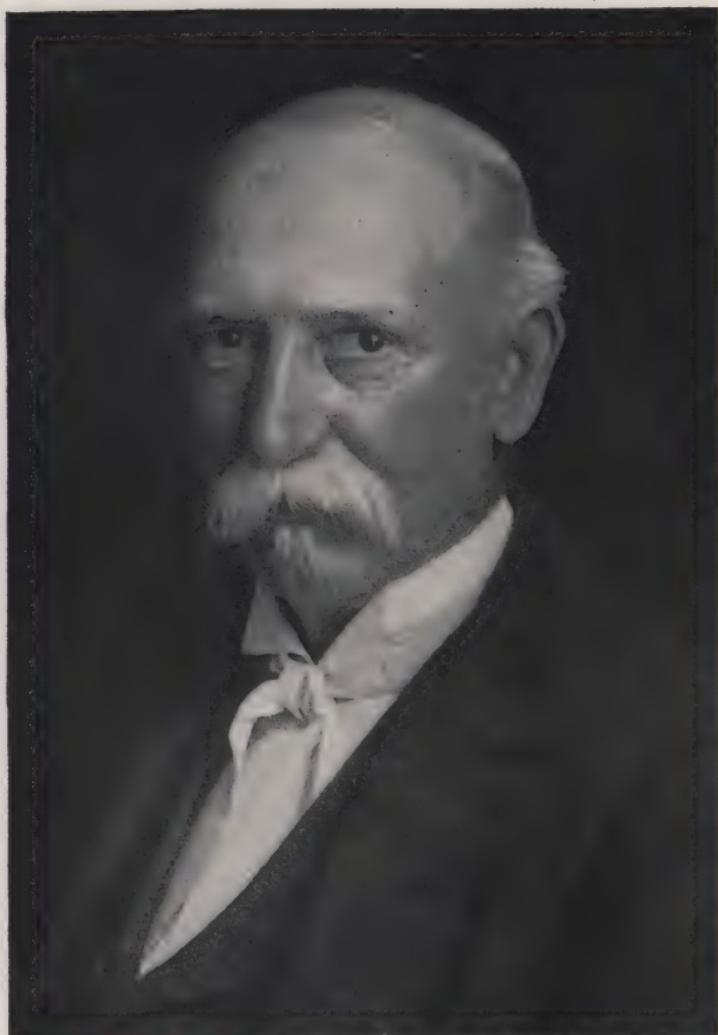


Fig. 6. Example of plain lighting, giving a "snappy" three-quarter-face portrait.

C. C. Kough. See page 167.

Three-Quarter Face Portrait-

For a snappy, three-quarter face portrait by this lighting, such as we have in Fig. 6, turn the face of the sitter away from the light until the ear on the shadow side is just out of sight, and direct the eyes until they face the camera. The highest light will now be on the right or left side of the forehead (according to the direction of the light), the next strongest on the cheek bone and nose, and the next on the right or left upper lip, falling gently to the chin. On the shadow side of the face the delicate half-tones will grade back until lost in shadow. If the lighting is correctly managed, the catch-lights in the eyes will be properly placed as in our example, and will give animation to the face.

Various Types of Subject

In using this lighting for portraits of old people, a small portion of the top of the side-light slightly in front of the sitter can be used to advantage, giving a degree of roundness which is desirable where the features are flattened by age, or where the hollows under the eyes are at all prominent. When the nose is a distinctive feature, care should be taken to keep the shadow side of the face well illuminated, so that the line of light along the nose does not render it obtrusive.

For children, the top light alone will usually give the most desirable lighting. For groups, the top and side light combined will generally be needed to avoid heaviness in the shadows and abruptness in the modeling.

Shadow Illumination When it is found, in the use of 45° lighting, that the shadow side of the face invariably shows heavy and dark, do not fall back on a light reflector for relief until you have thoroughly tested the influence of the color of the studio walls upon this detail. My experience has taught me that the most favorable illumination of face shadows is ensured by having the walls colored in a medium light neutral tint, and the intelligent treatment of this detail will obviate any necessity for the use of reflectors. As a matter of fact, the most experienced operators depend little, if at all, on the use of reflectors in obtaining their lightings. With a properly constructed light and a reasonable knowledge of its handling, there should be

no occasion for the employment of such a makeshift. The great failing of those who depend on a reflector is to place it too close to the subject. This invariably falsifies the illumination of the shadows, and gives them an unnatural intensity. The obvious remedy for this defective practice, where the use of the reflector is thought to be necessary, is to begin by placing it as far from the subject as possible, and then to closely observe the changing effects as it is gradually brought nearer to the sitter, until it is seen to slightly ease the heaviness

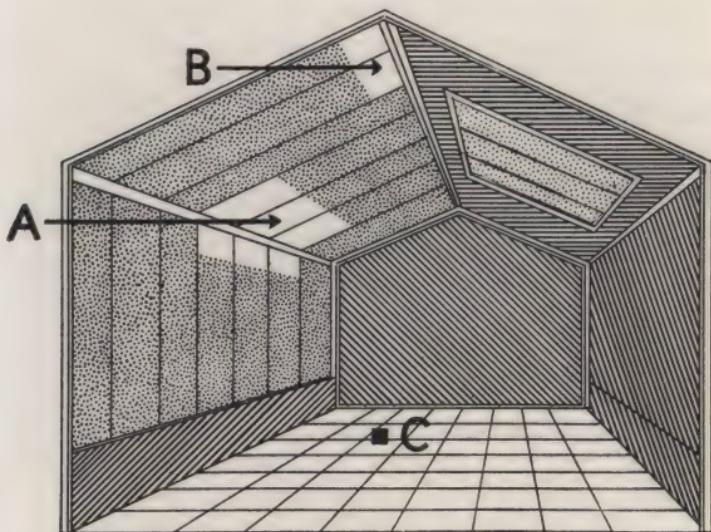


FIG. 7

of the shadows, without merging the delicate lighter tones into the high lights. In my own practice, I get all the effects usually obtained by a reflector by opening a small light area, about two or three feet square, at a point in the skylight marked B in Fig. 7.

Having thus dealt somewhat fully with the general principles of this method of lighting, I need not repeat them in discussing other methods in which they have an obvious application. Before proceeding to these other methods, however, it may be profitable to make room for a few notes about the use of plain or 45° lighting.



Fig. 8. Example of side lighting.
R. H. Furman. See page 170.

**The Best
Side of the
Face**

An important point is to make sure as to the "best" side of the sitter's face before attempting this lighting. Every human face has its "best" side, and most persons have a definite knowledge of this peculiar fact. No amount of skill in lighting or posing can overcome an error in this detail.

**Overmuch
Top Light**

Another point is that the more directly overhead the light is to the sitter, the more pronounced will be the modeling of the features. This applies with special force to portraits of women. A preliminary glance at the sitter will usually determine the right position of the subject in this regard. In no case should the light side of the face be blocked or chalky from the highlight on the forehead to the chin. The temple, the cheeks under the eyes and near the ear, the side of the nose and the curving of the face to the chin, should all show delicate modeling by varying degrees of tone or shade. Too strong a top light will give a spotty effect, the shadow masses especially being too abruptly defined and lacking in life. On the other hand, the predominance of side light will accentuate contrasts and exaggerate the projection of the features, so that the portrait will lack plasticity.

For head and shoulder work, when what is known as a straightforward portrait is desired, no other style of lighting will give results as satisfactory as this plain lighting. With the average subject, it gives the most pleasing aspect of the head and face, and is equally suited to youth and age. Properly handled, it will often give distinction to an otherwise unprepossessing face, being especially favorable to the round, full face, which needs all the modeling we can put into its presentation. In such a case the light should be so directed as to run down through the center of the face from forehead to chin, so that the too-full sides of the face may softly grade away into shadow.

While the method of lighting illustrated in Fig. 8 is not so widely employed in everyday portraiture as plain or 45° lighting, it is rightly regarded as one of the most desirable of conventional schemes of lighting. One



Fig. 9. Example of side lighting.
D. D. Spellman. See page 173.



Fig. 10. Showing the typical arrangement of studio, blinds, camera and sitter for side lighting. See page 173.

reason for this is, undoubtedly, its tendency to favor or flatter the sitter, due to the plastic effect it imparts to the features. Another reason is found in its extreme simplicity when once the underlying principles are appreciated. Its effects are easily obtained in a studio fitted with the usual side and top lights and blinds, or in the more modern single-slat skylight, as well as in an ordinary room with a high window. It is not suited to certain types of subject, as, for instance, a long, thin face, or one with features of marked irregularity. But to the beautiful, well-rounded face of a woman it will often give the further grace of refinement, while to a face expressing character it will generally add force and virility, as we see in Fig. 9. In these two examples its adaptability to subjects of different classes is well evidenced. Let us note, in passing, that side lighting is not so well calculated to give that striking element of likeness which is peculiar to plain or 45° lighting.

The main idea of the scheme of side lighting, as indicated in Fig. 10, is to bring the light area down almost level with the sitter. The open area, however, should not be too low, or it will give undesirable qualities. For women, the main direction of the light may come from a point just above the eyes. With men, where sharper contrasts of light and shade are desirable, the angle of illumination may be steeper, as in Fig. 9. When correctly handled, the light should softly envelope the head and shoulders in gentle gradations, the head itself giving a soft shadow mass extending from the middle of the cheek to the far outline of the hair, the neck and far shoulder (if shown), being almost imperceptibly outlined in half-tone. It will be obvious that the softness or force of the light effect will depend on the size of the light area and its position in relation to the subject.

Begin by opening the side blinds and How to Do It the lowest blind on the skylight, so as to get a light area of from four to five square feet. Place the sitter about eight or ten feet away from the sidelight and at right angles to it. Let the body almost face the far end of the light area, the back to the camera, and the face or head turned so as to get the most

pleasing balance of profile, hair-dressing, neck and shoulders. This will give us the effect shown in Fig. 8. If it is not wholly pleasing with the subject in hand, or the lighting on the face is too evenly divided into equal halves of light and shade, move the sitter farther away from the camera and at right angles to the light, when the lighting will approach that given by the 45° scheme, except that the shadow side of the head and face will not be so well illuminated, and the outlines will be more forcibly emphasized. The slightest changes, whether in turning the head to or from the camera, enlarging or diminishing the light area, or raising or lowering the main direction of the light, will now be seen to produce marked differences in the light effects obtained. When, by watchful observation, an arrangement is arrived at which is favorable to the sitter, the exposure can be made with complete confidence as to the results in the negative. Develop for shadow detail.

"Rembrandt" or Line Lighting Somewhat reluctantly I am obliged by custom to abuse the name of Rembrandt here to describe a style of lighting which is popularly known as "Rembrandt lighting," but which should more properly be called line lighting. It has nothing in common with the characteristics of the works of the great master of light and shade, but is really an accentuated variation of side lighting in which the illumination is concentrated behind the head and face of the subject, so that the greater part of the face seen in the portrait is rendered in shadow, only the outline of the profile, with part of the forehead and cheek being strongly lighted.

By whatever name it be called, this style of lighting is very effective when properly handled with a suitable subject. It is adapted only for subjects possessing either a pleasing profile or features of well-marked individuality, the concentration of the light bringing these into startling prominence. Generally speaking, it is not suitable for round or well-filled faces accompanied, as these often are, by short, stumpy noses. On the other hand, faces or profiles of the so-called Grecian type may be pleasingly portrayed by line lighting, especially when the arrangement of the hair, the hat or other head cov-



Fig. 11. Example of "Rembrandt" or line lighting.
H. Essenhight Corke. See page 177.



Fig. 12. Showing typical arrangement of studio, blinds, camera and sitter for "Rembrandt" or line lighting. See page 177.

ering, can be utilized to lend pictorial effect to the composition. Fig. 11 is an example of this effect of lighting, and Fig. 12 shows the general arrangement of light, sitter and camera in making such a lighting.

As we see in Fig. 12, the disposition of these details resembles the arrangement made up for side lighting; but the sitter is placed nearer the light, the light area itself is smaller and relatively higher considering the nearness of the sitter, and the camera is moved to about the center of the studio width, so that the sitter is seen against the light. A variation of this arrangement is obtained by the use of a low background almost parallel with the side light, so placed that the light falls on the sitter from above the background. Where the profile of the subject permits the head to be slightly tilted upward with pleasing effect, this method gives very desirable results.

Line lighting is not an easy method to handle. It demands discriminating selection as to the subject and a keen sense for pleasing lines. The mass of shadow enveloping the face, neck and near shoulder also requires careful management. This shadow mass should be transparent and really full of subdued detail and modulation. Reflections will often cause difficulty, but these can be remedied by removing the cause. Especial care should be taken to shade the lens from direct light, remembering that we are photographing against the light. This can be accomplished by using a background which is sufficiently high or large to include camera and lens within its cast shadow, or by the use of an extra-large lens hood. A common source of failure with this style of lighting is found in the tendency to under-exposure and over-development. It should not be forgotten that here, as whenever we have to deal with large shadow masses in a composition, a full exposure is essential to the securing of correct tonality. The rule should be: expose for the shadows and stop development as soon as the high lights have attained the desired density.

Diffusing Screens Although the three styles of lighting thus far described will meet most of the requirements of everyday portraiture, it must not be imagined that they cover the possibilities of studio lighting. In reality, they form only the basic prin-

ciples of lighting and are susceptible of endless variation and modification. It is in his mastery of these elementary methods and their variation to meet the individual requirements of his subjects that the skill of the portraitist is shown. In a few of these modified lightings now to be considered, the use of diffusing screens and similar conveniences for controlling the illumination of the subject is of much importance.

We will take first the small, adjustable diffusing screen shown in Fig. 13. In one or another form this diffuser is used in many prominent studios, but its usefulness is

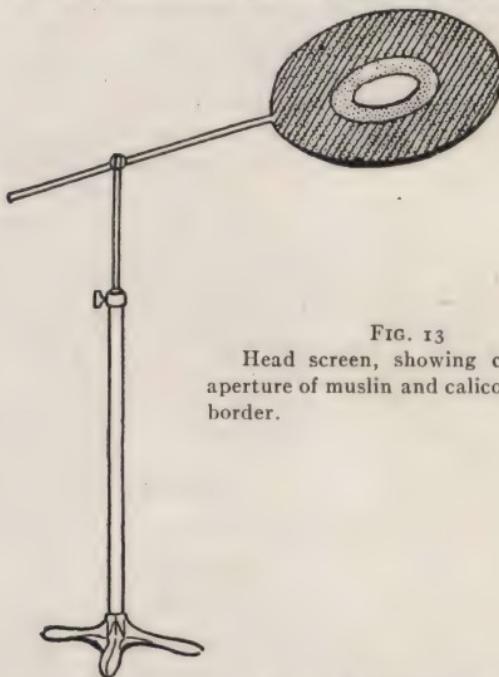


FIG. 13
Head screen, showing central aperture of muslin and calico outer border.

not as generally appreciated as it deserves. Most supply dealers offer an adjustable head screen, in which the screen itself is made of white cotton or calico, the hood being about twenty-four inches in diameter. With this the reader can readily construct a diffusing screen to suit his special requirements. For example: In order to give a sharply modeled effect, with well-marked highlights, to a full, round face, I prepare my diffuser as follows: Cut a hole twelve inches in diameter in the or-

dinary twenty-four-inch calico screen and stretch open-mesh bookbinders' muslin over the hole. Within this inner space of muslin cut a smaller hole, say six inches in diameter, as seen in Fig. 13. With this improvised diffusing screen ready for use, open the studio blinds as for the normal 45° lighting, place the diffuser quite close to and, of course, slightly above the level of the sitter's head, and you will see that the slightest movement of the screen produces a marked difference of effect in the

lighting, enabling you to suit the lighting more closely to the needs of the individual face than can be done readily with the studio blinds alone. In such a diffuser we have really a three-fold, graded screen. The larger shadows are still sufficiently illuminated by the light passing through the outer rim of the screen; the half-tones between lights and shadows are softly graded by the second section of bookbinders' muslin, and the small beam of bright light passing through the center opening unscreened supplies the sparkling high lights on any desired portion of the face which give animation to the portrait. See also Fig. 13a.

In brilliantly
Shading lighted studios,
Screens or for special ef-

fects, a similar screen with the outer rim of the hood dyed to a pale rose color will be found advantageous. For what is sometimes called shadow lighting, i. e., where the face is turned

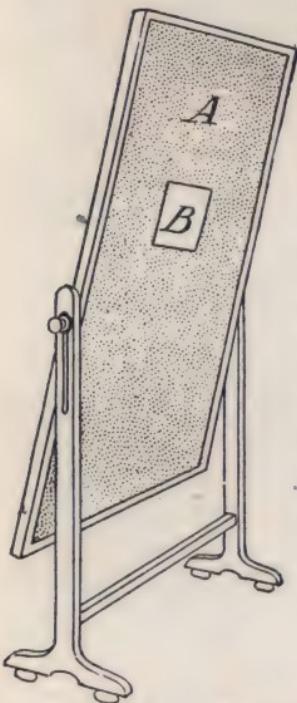


Fig. 13a. Large diffuser. Frame-work A is adjustable up and down and on swing, and consists of semi-transparent material, in which an opening B is cut out.

from the light and is shown in shade against a light ground, the diffuser is replaced by an opaque screen surrounded by a rim of tracing cloth or stout calico to soften the edges of the shadow. Small opaque screens

for hand use are also often desirable to kill troublesome reflections or give special force to the shadows of the face, and are used just as hand-reflectors are used. For the more elaborate control of lightings in three-quarter or full-length portraits, a larger screen will be required, but as such a screen will be needed for lamp-light effects its description will be given later. The Century Co. offers such a series of handscreens, and the King Light Controller affords a very complete battery of reflectors and screens for the same purpose.

Another form of light-screen which possesses many advantages is, I believe, in more general use in America than in this country, and consists (Fig. 13a) of a large square screen of semi-transparent material mounted on a stand and adjustable in all directions. Its chief advantage is that in the center a small opening about one foot square is left clear, so that whilst it softens the general illumination over the whole subject, yet a small beam of bright light is allowed to pass undiffused on to the model.

The use of the small hand-screen is well illustrated in the style of lighting introduced by C. C. Kough, an example of which is shown in Fig. 14. (Frontispiece.) This style is most effective with subjects in evening dress, where the neck and shoulders are exposed, and in profile portraits. It gives the portrait peculiar roundness of effect and a pleasing sense of relief or modeling. Mr. Kough describes his method of obtaining this lighting as follows: "I place the sitter eight or ten feet or more, as the place requires, from the side light, with the back to the light (mine is the old style of studio with side and top light), and the face looking from the side light. Shut off nearly all the light from the top. If, in this position, the face is too much in shadow I turn my subject, bringing the face more broadside to the side light, so that the eye is properly illuminated without giving flatness to the face. After I get the head properly lighted, I take a small head screen and place it so that it will give just enough shadow on the outline of the back of the neck to give it roundness and relief from a white ground. The whiter the background is, the better; and it should be kept far enough from the sitter, so that no shadow



Fig. 15. Example of white background lighting.
H. Essenhight Corke. See page 183.



Fig. 16. Example of lighting to secure pencil sketch effect. H. Essenhagh Corke. See page 183. [The engraving fails to reproduce the delicate shadings on the dress.—EDITOR.]

will fall on it from the subject, as this will reduce the sense of relief in the head and shoulders. When these details have had attention, I remove the camera to the side light so as to get a profile view of the subject, make the exposure, and the deed is done. It requires a little practice to put the shadow just on the outline of the neck and shoulders without shading the head too much. A small head screen is best, one about 18 inches in diameter. After a few trials this method of lighting will come quite easy and its adaptability for different sorts of subjects, such as women and children, will be apparent."

Light Back-ground Work During recent years the use of white backgrounds for subjects in white or light dresses has brought forward a popular style in portraiture which requires special treatment in the lighting of the sitter. The general arrangement of the studio blinds for effects of this character, such as we see in Fig. 15, may be as indicated for plain or 45° lighting, except that the light area may with advantage be double the usual size and a reflector must be employed, this being placed as near to the subject as is practicable.

The background used must be painted a distinctly blue-white, the ordinary white paint quickly taking on a yellowish tinge which makes it impossible to get a soft, white ground in the print. The necessity of using the white blinds to secure diffusion and a soft light enveloping the subject will be apparent. For this lighting the exposures should be full almost to the extreme of flatness, and the negatives should be developed so as to secure a thin but full graded image, in which there are no patches of clear glass or absolute opacity except the opacity of the background.

Pencil Sketch Effect As a variation of this light background work, portraits resembling pencil sketches can be obtained, as follows (see Fig. 16): The sitter is placed before the white ground, as arranged for light background work. Then a reflector, as shown in Fig. 17, with the dark blind drawn up over it, is placed as near as possible at the side of the sitter, who should preferably be posed in profile. This dark reflector causes the face to assume a darker tone than the dress

and gives a slightly shaded outline as shown in the example. When properly handled with an appropriate

subject this style is peculiarly effective. The exposure for this lighting should be double that given to a normal lighting, and the plate should be developed in a fairly strong developer to soften or flatten the modeling. If the shadows, hair, etc., show up too darkly in the first proof from a negative made in this manner, these can be lightened by a little color applied to the glass side of the negative or careful retouching on the film.

**Firelight
Effects**

In strong contrast to the styles

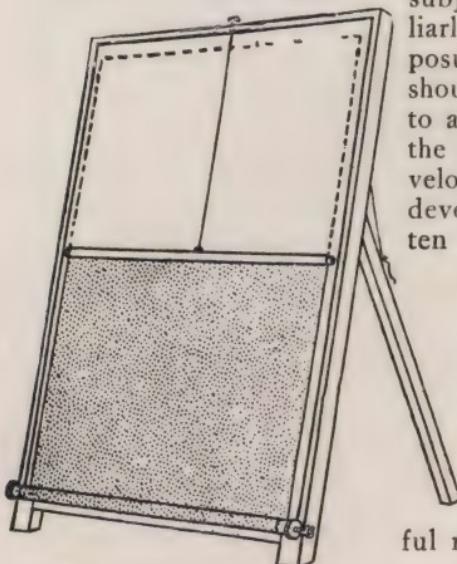


Fig. 17. Diagram of reflector; dark material shown half drawn up. Dotted lines show material drawn up to its full height.

in which the lighting is arranged to give firelight effects, as seen in Fig. 18. This method of lighting, worked out and introduced by the writer two or three years ago, has proved immensely popular, and has almost completely displaced the earlier methods of obtaining these effects by the use of flash-lights. The daylight method is exceedingly simple in handling and is peculiarly adapted to the portraiture of children and young women.

For this lighting, the entire studio should be darkened, that is, with all the blinds closed except a small space 18 inches square at the bottom of one end of the side light. If the side light does not extend to the floor, it will be necessary to provide a temporary platform bringing the floor up to the level of the window so made. On this platform the sitter is posed, either lying or sitting on a rug or low seat so that the whole of the subject



Fig. 18. Example of "firelight effect" lighting.
H. Essenhight Corke. See page 184.

is illuminated sufficiently to simulate the familiar effect given by firelight.

A Fireplace Accessory It is not necessary to include the whole of the fireplace, but a brass fender (or a property fender kept for such work) may be laid in front of the window and partly included in the picture space to give the note of realism to the fire-light effect. Where, however, it is desired to show a complete fireplace in the picture, a studio firemantel accessory can be obtained through any large dealer, such an accessory being in the market here and in England. In the model designed by the writer, the "firelight" is reflected from a mirror placed within the accessory. Presumably the American model has a similar device, although I have not seen this model.

The Working Method For the ordinary method of working with the small window, a plain, dark background is placed about five feet away at right angles to the window, or slightly inclined away from the light to avoid reflection. A dark rug or floor cloth is used so that the light effects are concentrated on the sitter. As no shadow details are desired in such pictures, the shadows given by firelight being usually heavy and somber in tone, the exposure need not be protracted, one or two seconds being sufficient. Develop for the high lights only, using a soft working developer such as metol or azol, and take special care to keep the plate clear and clean.

Used with discrimination and nicely applied, this lighting provides a pleasant variety among everyday studio effects. The illusion of the firelight effect can be enhanced by dyeing the prints in a suitable stain, such as eosin stain, to be found among the Burroughs, Wellcome specialties; but this detail can easily be overdone and a warm-toned brownish-red print on a buff paper will usually satisfy reasonable demands. It is obvious that in making firelight pictures, where the subject is posed upon a rug, a great deal of one's success depends upon the arrangement or pose of the subject, and in this detail the chief difficulty of using the method is usually found. Simple and natural arrangements, here as elsewhere, are invariably the most pleasing.

**Lamplight
Effects**

The production of lamplight effects by daylight lighting calls for a little more care and trouble than the preceding method, but the results are generally pleasing and the style adds a desirable variety to every-day work.

For this style we need a few accessories or helps, the first being a combined head and body screen similar to that shown in Fig 19. This screen consists of an upright frame upon which are hung small, dark blinds of sateen or other soft material very similar to small casement curtains. Each blind or curtain should overlap that next to it, so that all light except that really needed can be excluded at every point. The upright screen so obtained should be about six feet in width and eight feet high, the small blinds being each about two feet square.

**Lamp and
Screen** As in this scheme it is desirable to include the lamp as the

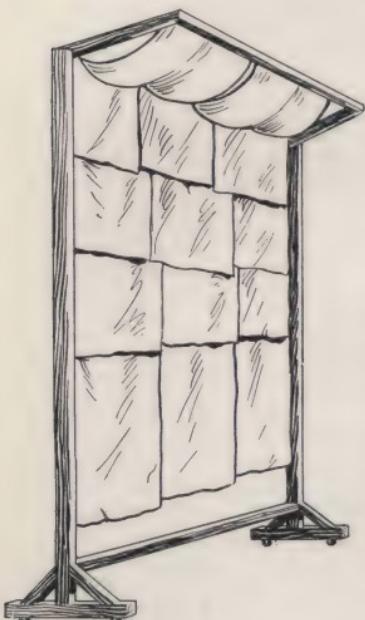


Fig. 19. Combined head and body screen.

source of the illumination, we next need a dummy lamp which will serve this purpose and lend the necessary sense of illusion to the lighting of the portrait. To make this property, an ordinary parlor lamp with a silk shade should be taken into a darkened room, and a quarter of an inch of magnesium ribbon suspended inside the shade by a piece of fine wire, occupying the place of the wick flame. Focus a camera on the lamp and make a good technical negative by exposing a backed or non-halation plate during the time the magnesium ribbon takes to burn. The lens should be stopped down to F. 8 for this exposure. From this nega-



Fig. 20. Example of "lamp-light lighting effect."
H. Essenhight Corke. See page 187.

tive a bromide enlargement is made to obtain a picture showing the lamp in the same size as the original. This is mounted and the lamp carefully cut out. The edges of the cut-out lamp are blackened and a good stout back-strip is next attached so that the dummy lamp will stand upright on table or pedestal. With these accessories lamplight pictures such as we see in Fig. 20 may be made without difficulty.

In making lamplight portraits the **The Method** studio should be quietly illuminated, without too much light, one side of the studio being darkened. A portion of the side light equal in size to the screen is fully opened and the screen, with all its curtains closed, is placed close to this light aperture to completely obscure it. Now place the sitter in any convenient arrangement (as, sitting at a table) with the dummy lamp between sitter and screen, and as close to the screen as possible. A single curtain in the screen is now opened and a flood of light will enter where the lamp is placed, pouring past until it seems to fall on the subject from the lamp itself. If the lamp and light aperture are correctly placed for normal lighting, the head and bust, arms, etc., of the subject will be pleasantly illuminated, while the diffused light of the studio will sufficiently light the shadows and those parts of the picture not reached by the main light coming through the screen. More elaborate lightings can be obtained by the use of other light apertures in the screen and the employment of diffusing curtains to control the illumination of the figure at any desired point. These modifications, as with all other schemes discussed in these pages, will be apparent as the reader familiarizes himself with his work on the principles here briefly set forth.

H. ESSENHIGH CORKE.

Notes and Comment

The International Exhibition of Pictorial Photography, now being held under the auspices of the Buffalo Fine Arts Academy at the Albright Art Gallery, Buffalo, N. Y., is clearly the most important event of the current year as far as photography is concerned. The exhibition opened November 4, and will close December 1. It should be seen by all who can possibly spend a day in Buffalo between the dates mentioned. No previous exhibition held in America can compare with this, either in scope or richness of interest, or as representative of the world's progress in pictorial photography, from the days of David Octavius Hill to the present time. The "Foreword" to the catalogue of the exhibition, evidently very carefully prepared, gives the significance and purpose of the event as follows:

"The aim of this exhibition is to sum up the development and progress of photography as a means of pictorial expression. The Invitation Section consists largely of the work of photographers of international reputation, American and Foreign, whose work has been the chief factor in bringing photography to the position to which it has now attained. It comprises a number of 'one man's shows,' and in many instances these exhibits include a number of prints executed quite recently. The prints in this entire section have been selected because of their intrinsic quality; while many have also the additional interest of marking special stages in its development. Many of these prints could be included only through the kindness of private collectors. In view of the comprehensiveness of this historical survey, the excellence and scope of the work of each individual represented here, and the evidence of the present day vitality of Pictorial Photography, this exhibition aims at something more thorough and definite than ever has been attempted heretofore in any previous exhibition, either in America or abroad.

"The Open Section was added to this exhibition to give all American photographers an opportunity of being represented ; and such of their work was selected as proved to be of a sufficiently high standard to link it with the spirit and quality of the Invitation Section."

The Invitation Section comprises 495 prints, representing the work of D. O. Hill (1802-1870), J. Craig Annan, Malcolm Arbuthnot, Walter Bennington, Archibald Cochrane, George Davison, Frederick H. Evans, J. Dudley Johnston, Frank H. Reed, all of Great Britain ; Robert Demachy, Celine Lagarde, René Le Begue, and C. Puyo, representing France; Hugo Henneberg, Heinrich Kühn, Hans Watzek, Th. and O. Hofmeister, and Baron A. De Meyer, representing Austria-Germany; Annie W. Brigman, John G. Bullock, Alice Boughton, Rose Clark, Alvin Langdon Coburn, F. Holland Day, W. B. Dyer, Frank Eugene, Gertrude Kasebier, Jos. T. Keiley, Frederick H. Pratt, Harry C. Rubincam, Geo. H. Seeley, Ema Spencer, Katharine Stansbury (Mrs. Burgess), Eduard J. Steichen, Alfred Stieglitz, Edmund Stirling, and Clarence H. White, representing America.

In the Open Section there are photographs by Charlotte S. Albright, Paul L. Anderson, Chas T. Archer, Laura Armer, Jeanne E. Bennett, Elizabeth Buehrmann, Mrs. C. B. Bostwick, Robert Bruce, Francis Bruguière, Sidney Carter, Pierre Dubreuil, J. Mitchell Elliott, Arnold Genthe, Paul B. Haviland, J. B. Hodgins, R. S. Kauffman, M. R. Kernochan, Nuella Kimball, Wm. J. Mullins, W. & G. Parrish, W. B. Post, Karl F. Struss, Augustus Thibaudau, Chas. Van Dervalde, Amy Whittemore, Myra Wiggins, Eleanor W. Willard, and F. C. Baker.

The total number of prints shown, about six hundred, represents almost sixty exhibitors. The prints represent almost every variety of the bromide, carbon, platinum, gum bichromate, oil, ozotype, and gravure processes, platinums and gums being in the majority. The pictures by D. O. Hill, which may be said to represent the beginnings of pictorial portraiture, include thirty-five original calotypes. The arrangement of the prints on the walls, due to Messrs. Max Weber, Alfred

Stieglitz and Clarence H. White, is in every way ideal, giving each picture a position "on the line."

It is, of course, quite impossible to review the exhibits here in detail, but I hope that every reader of this who can manage the trip will make his or her pilgrimage to Buffalo during November and see the exhibition in person.



Our Trouble Number. That check for ten dollars, offered on page 99 of THE PHOTO-MINIATURE, No. 110, for the most practical suggestion for a PHOTO-MINIATURE monograph, went to Malcolm Dean Miller, M. D., of Boston, his suggestion being "Beginners' Troubles." So clear and practical was Dr. Miller's suggestion and outline of treatment that I persuaded him to write the monograph. It will appear in an early number and usher in the golden age.



The competition did not awaken as large an interest as I expected, but all the suggestions were good, whether practical or not. A woman competitor suggested that I "bunch" a hundred of the suggested subjects and discuss them on the basis of a page apiece, thus making up an issue which would undoubtedly offer a variety of interest and usefulness. Alas—there were not a hundred suggestions all told, although some competitors sent three or four.



This month, the competition is organized on the "Votes for Women" idea and is for women only. A check for ten dollars will be sent December 31 for the best picture received from a woman photographer—an example of her own work throughout. By the "best picture" I mean the cleverest or most pleasing bit of photography received. Any subject, any size larger than $3\frac{1}{4} \times 4\frac{1}{4}$. Open to amateurs and professionals—women only. The winning print is to become the property of the editor of this magazine. All other prints will be returned, provided that sufficient postage is enclosed for this purpose when the prints are sent.

The Russian Photographic Society, Moscow, Russia, asks me to announce its International Photographic Exhibition, which will be held March 14 to May 7, 1911. The conditions for exhibitors have already been sent to all American photographic clubs and societies, but are now modified as follows, to induce a large representation of American work: (1) Exhibits from photographic societies will be admitted without charge for space. (2) The customs duty on exhibits will be settled by the Russian Photographic Society, and will be charged to exhibitors only in the event of the sale of a picture, and, if desired, the Society will undertake to add the duty charge to the price named by exhibitors. P. Betton Done, Secretary of the American Section, care of Russian Photographic Society, Kusnetsky Most, Passage Djamgaroff, Moscow, will gladly send any further information desired on request.



Will my readers please note that the factory and office of the C. P. Goerz American Optical Co. is now located at 317-323 East 34 St., New York, right in the heart of the dear old town, where they may see a collection of unusually interesting photographs, "made with Goerz lenses," of course, and all the latest models of the Goerz-Anschutz, Goerz Tenax, and other cameras as made by this firm, or get expert advice as to the use of any Goerz specialty.



Likewise, please note the removal of the Multi-Speed Shutter Co. to 317 East 34th street, New York, right at the center of things and most convenient for visitors curious about the wonderful Multi-Speed Shutter, Novo Horizontal Development Tanks and other inventions of the ingenious Gustav Dietz—who can be seen in person, if you are sufficiently persistent in demand.



Among my visitors, during the past few days, were Frederic Eugene Ives, who is doing wonderful things in the line of color photography; Alvin Langdon Coburn,

who came over from his London studio to see the Buffalo Exhibition and launch his new portfolio, "New York" (similar to the "London" portfolio of a year ago)—choice Coburn photogravures and a foreword by H. G. Wells; Stephen H. Horgan, fresh from a trip over the continent and back again in the interests of the Axél Holmstrom Etching Machine, and enthusiastic about the progress of reproduction methods everywhere; Carl Ackerman, from across the way, bubbling over with plans for his forthcoming "Photographic Directory" (to be published shortly); Charles O. Lovell, from Boston, full of optimism and talk of his new "Magnet" plates, which the wise men of the East are using in preference to all others; Juan C. Abel, from Cleveland, attired in the "latest gray effects," small check, with heavy black and white diagonal overcoat, pockets bulging with photographers' booklets (57 varieties), and the man himself sparkling with life and gossip "not for publication;" and, last but not least, a charming woman from Joplin, Mo., who shall be nameless here, but who gave me a delightful half-hour's glimpse into her photographic life and—subscribed for THE PHOTO-MINIATURE.



Making an index is a bothersome job for a busy chap, especially if he has the notion that THE PHOTO-MINIATURE is a self-indexing institution. So the Title Page and Index for Vol. IX, THE PHOTO-MINIATURE, are not yet ready. This much by way of explanation. Will those who really want copies of the Index please put in their applications at once. The Index is sent for a 2-cent stamp—when published. A librarian, out in Denver, complained that the price was extortionate, but it merely pays the postage at first-class rates.



Judging from many communications received from friends in California, San Francisco seems to want to hold an International Exposition in 1915, to celebrate the completion of the Panama Canal. I am asked to "boost" the project, and to urge the readers of THE PHOTO-MINIATURE to write to their Congressmen and

Senators to support the proposal that Congress authorize the President to invite the nations of the earth to participate in this Exposition.

I can see no reason why San Francisco should not have the Exposition. Seattle has had hers; Portland had his, and New York has just decided that it does not want one under any circumstances. The way seems clear for San Francisco to have what she wants and deserves. Send to the Panama-Pacific International Exposition, Merchants Exchange Building, San Francisco, asking for the little booklet entitled "Facts for Boosters," and you will agree with me in all here said.



The Century Camera Division, Rochester, N. Y., has just introduced a series of small screens for use in studio portraiture, which run very closely along the line of those mentioned in this issue, as helpful conveniences in this work. We note also that the same house is announcing a Sepia Spotting Pencil, which is just the thing (as I have proved by experience) for retouching and working upon Sepia prints of every sort.



The Photo-Secession has added considerably to the gaiety of nations since its golden effulgence burst across the horizon. I am a strong admirer of *The Photo-Secession*. It is very much alive and dearly loves a fight. The very latest outburst, apart from its triumph at Buffalo, comes in the shape of two pamphlets dressed in Quaker gray, entitled "Photo-Secessionism and Its Opponents." The first consists of five letters and the second of "Another Letter"—the Sixth. These letters are of the intimate, personal sort, and must be read to be appreciated. Address Alfred Stieglitz, Photo-Secession, 291 Fifth Avenue, New York.



The Photographic News, edited by Carl E. Ackerman and published monthly from 42 East 23rd street, New-York City, is a new photographic journal "for the working photographer." It provides a goodly proportion

of news and is very pointed in its comment and advice.
\$1 a year.



The eternal question about "depth of focus" will not lie quietly in its grave. Here is the latest question: "If we have two or more lenses of equal focal length working at identical apertures, will not "depth of focus" vary with the relation of the size of the image to the size of the object?" And the answer. "Yes. The smaller the object or the farther away it is from the camera, the greater the distance before and behind it in which objects will be sharply defined."



Here's something to brag about! At the recent Brussels International Exposition, Messrs Burroughs, Wellcome & Co., London and New York, were awarded no less than eight Grand Prizes, three Diplomas of Honor and a Gold Medal for the excellence of their products; while at the Japan-British Exhibition, held at London a few months ago, they secured five Grand Prizes and another Gold Medal for the same honorable cause. This is a remarkable record, and should convince the most skeptical that B. W. & Co.'s new developer Rytol is worthy of a trial. Also, that it would be wisdom to test the practical convenience of the Wellcome Exposure Record and Diary for 1911 (now ready at all dealers') with its hundreds of hints and suggestions not to be found elsewhere, and a real exposure calculator—all for fifty-cents.



An attractive line of dark-room lamps, at prices ranging from 40 cents to \$5, is shown in an illustrated booklet issued by Burke and James, Chicago. The variety includes lamps for use with candle, oil, gas or electric light and makes a more complete showing than I have seen elsewhere.



Much curiosity has been aroused by mention in various European photographic papers of the experiments

of M. D'Osmond with flashlight powders for auto-chrome work. I have seen the paper, read by M. D' Osmond before the French Photographic Society, and it is extremely disappointing in that it gives neither the formula for the special flashlight powder, nor the spectrum of the special color screen devised for use with the powder employed in the experiments related.



George Murphy, Inc., 57 East 9th street, New York, American Agents for Ross Lenses, Autotype Carbon Tissues, the British Journal Almanack, and a host of other good things from across the water, have just published a general catalogue which provides as complete a reference book to the photographic market of today as any one could desire. Enclose 10 cents to cover the postage when you write for a copy.



A few days ago I had the pleasure of looking over the originals of the pictures reproduced in *The American Annual of Photography, 1911*, which is to be ready early in December. They made a splendid showing, decidedly better in interest and quality than the collections I gathered for the three volumes of the "Annual" I edited (1908-9-10). Mr. P. Y. Howe, the editor of the 1911 "Annual," is to be congratulated upon his good fortune in securing so many "good things" for the embellishment of his volume. Unless I am mistaken, it will be the best of the series as far as illustrations are concerned.



The Prize Reversible Developing Tank, the Montauk and Auto Tank [G. Gennert, New York and Chicago] are described and illustrated in an interesting booklet which can be had for a postal card addressed as above. They are worth knowing about.

Books and Prints

All books noticed in these pages may be obtained from the publishers of THE PHOTO-MINIATURE, and will be promptly forwarded, postpaid, to any address on receipt of the publishers' prices as here quoted.

With Other Photographers. By Ryland W. Phillips. 67 pages, illustrated. Price, \$2.50. Eastman Kodak Company. One of the most popular features of the professional Conventions during the last year or two was an illustrated lecture by Ryland W. Phillips, of Philadelphia, showing selected examples of portraiture by notable American and foreign professionals, with some account of their working methods under the skylight. In the volume here noticed, we have this lecture set forth in type with a full scheme of illustration, which gives us an interesting account of many well-known professionals, carefully chosen examples of their work, and special illustrations showing the interior of the studio, the position of the subject and the arrangement of the accessories at the time the selected study was made in each case. Without doubt, this is the most interesting, as well as the most helpful demonstration of studio methods, and professional photographers everywhere are indebted to Mr. Phillips for the practical teaching and inspiration of this handsome volume.



Photographing in Old England, with Some Snap Shots in Scotland and Wales. By W. I. Lincoln Adams. Price, \$2.50. Baker & Taylor Co., New York. This is a beautifully illustrated record of a journey through rural England, Wales and Scotland, by the editor of "The Photographic Times," whose skill as a photographer is well known. Mr. Adams and his family journeyed along the Thames from Windsor to Oxford,

through the country of the Doones, to many of the beautiful cathedral cities, the delightful English lake country, and through some of the most charming parts of Scotland and the Principality of Wales. Apart from the chapters which describe the author's experiences and impressions, there is a supplementary chapter giving valuable hints and suggestions for those who intend photographing abroad.



Landscape and Figure Composition. By Sadakichi Hartmann (Sidney Allan). Price, \$3. Published by Baker & Taylor Co., New York. This profusely illustrated volume is made up of chapters on landscape and figure composition, originally written by Sadakichi Hartmann for *The Photographic Times*, wherein they appeared during the past year. Mr. Hartmann is widely known as an art critic, and speaks with authority in all matters pertaining to pictorial photography. A careful reading of this latest volume from his pen convinces us that it is one of the most useful books on its subject, and we cordially recommend it to all interested in the pictorial treatment of outdoor subjects.



Although the use of photography in medical practice has increased vastly during the last few years, there has been little or nothing of importance published about new methods or applications in this special field. We, therefore, note with interest an important article titled "Medical Photography," by Dr. Nathan T. Beers, of Brooklyn, which appears in the *New York Medical Journal*, No. 1662, October 8. It is well worth seeing by all who are interested in the usefulness of the camera as an aid in medical and surgical practice.



The man who suggested "Which Lens, and When, and Why," as a subject for THE PHOTO-MINIATURE, will find just what he needs in a little handbook written by R. D. Gray, under the title "The Lens Part of Photography." R. D. Gray has thirty years of lens making

behind him, and his handbook gives the plain facts and figures, with a few good examples of lens work. The book will be ready, at all dealers, about December 15th, price 25 cents. The price is absurd. I paid R. D. Gray \$50 a few years ago for the MS. of a lens book not one-half as "meaty" as this little handbook. Better worry your dealer until you get your copy!



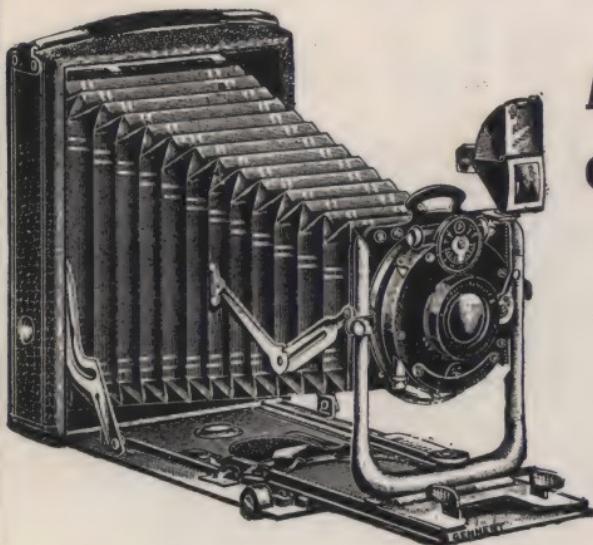
Photomicrography is the title of the latest Wratten & Wainwright, Ltd. (Croydon, England) booklet. Like the other booklets of this house (published to help sales of goods), it offers more practical information and common sense about its subject per square inch than many larger and more expensive text-books. No price is mentioned, and Messrs. W. & W. do not seek American business, but I suppose any one really interested in photomicrography can secure a copy by writing to Wratten & Wainwright, Ltd., for it and mentioning this note.



Photograms of the Year 1910. A literary and pictorial record of the best photographic work of the year. Edited by H. Snowden Ward, F. R. P. S. Stiff picture wrapper \$1.25 postpaid. Cloth, full gilt \$1.75. New York: Tennant and Ward.

Big improvements are seen in Photograms of the Year 1910 as compared with earlier issues. There are the same collection of about 200 selected pictures, the reports on the progress of pictorial photography in Great Britain, Germany, France, and so on, and the constructive criticism on the pictures reproduced, by the Editor, all as in past years. But the text is made vastly more interesting and offers crisp reading; the pictures are better and more carefully printed, the paper used is the best obtainable for half-tone work, and no less than twelve photographs in three colors are given as supplements. Of course this means increased cost, and the price of the book has been advanced to \$1.25 (stiff picture wrappers), and \$1.75 (cloth, full gilt), but the book is well worth its price.

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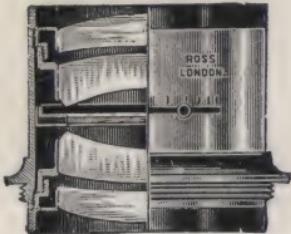
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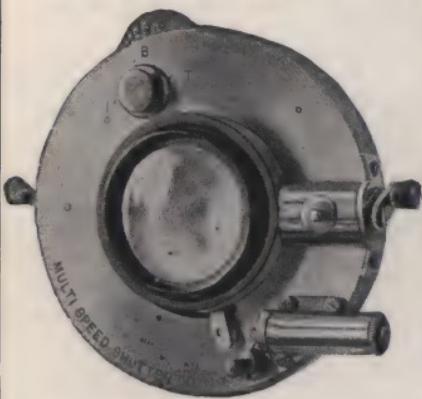
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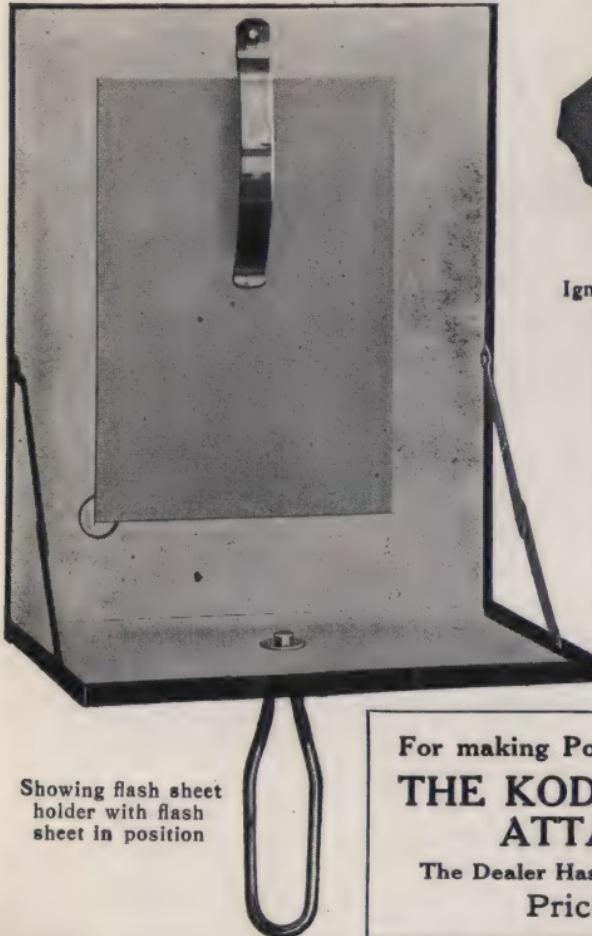
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Showing flash sheet holder with flash sheet in position



Igniting the flash sheet with match from the back

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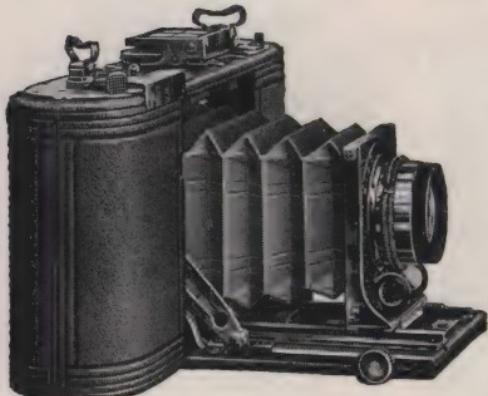
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duced. The athlete coming toward the camera makes an interesting picture, but such pictures are possible with the ordinary type of shutters when used at their highest speed, provided the operator is expert enough to make the exposure at just the proper time—the time when motion is arrested—when the athlete is at the full height of his leap. At this point he remains poised in the air for a fraction of a second, and a creditable picture can sometimes be secured without a special speed equipment.

Illustration No. 1 might have been made under just such favorable conditions if the operator was fortunate enough to make the exposure at the proper time, and therefore does not prove that the negative was secured under the most difficult conditions.

In illustration No. 2 there is no element of doubt as to the speed of the hurdler as he has just started his leap and is passing in front of the camera instead of coming toward it. This is a most severe test, and

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Illustration No. 2 is not so interesting a picture from a pictorial standpoint as No. 1, and is shown to prove speed—shown to prove to you that from whatever viewpoint you make your picture, a sharp negative can be secured. No need to worry about a blurred image — no need to watch and wait for the period of arrested motion. You can make the negative when you wish from any point of view and produce a perfect negative with the 1A Speed Kodak.

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Illustration No. 1—1-1,000 second exposure

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Illustration No. 2. 1-1,000 second exposure. This side view is a remarkable test for speed work and demonstrates the efficiency of the focal plane shutter used in all No. 1A Speed Kodaks.

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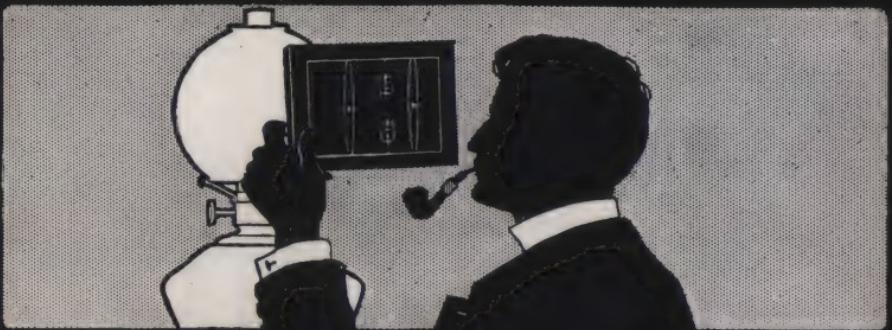
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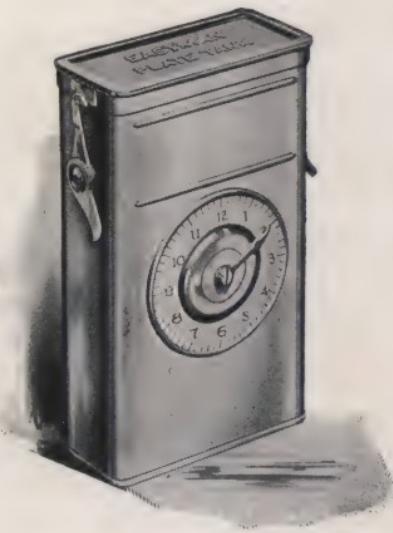


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